NEW YORK STATE Integrated Pest Management PROGRAM

Cornell University Cooperative Extension

# Elements of IPM for Winter Squash and Pumpkins in New York State

| MAJOR PESTS | | | |
|---|---|---|---|
| **Insects** | **Diseases** | **Rotation** | **Weeds** |
| Major Insects | angular leaf spot | 1 year | annualbroadleaves |
| striped cucumber beetle | bacterial leafspot | 1 year | annual grasses |
| spotted cucumber beetle | bacterial wilt | NA | perennial broadleaves |
| aphids | Alternaria | 2 years | perennial grasses |
| | anthracnose | 2 years | |
| **Minor/Sporadic Insects** | Fusarium crown and fruit rot | 5 years | |
| squash bug | downy mildew | NA | |
| western corn rootworm | gummy stem blight (black rot) | 2-3 years | |
| seed maggot | Phytophthora | >3 years* | |
| cutworms | powdery mildew | NA | |
| spider mites | Septoria leaf spot | 2 years | |
| | **Viruses** | NA | |
| | damping off | NA | |
| | white mold | 3 years | |
| * - duration of rotation uncertain NA - not applicable | | | |

| A. Site Preparation and Selection | Acreage Goal | Points |
|---|---|---|
| 1) Review previous season's weed map/list of fields to choose appropriate weed control strategies. See the Weed Assessment List available for use in satisfying this element. | 50% | 10 |
| 2) Crop rotation: 2-3 years away from cucurbits, more if needed for diseases indicated in table above | 75% | 10 |
| 3) Avoid tomatoes, peppers, and eggplant in rotation with cucurbits | 25% | 3 |
| 4) Nutrient management: soil test at least every third year. Fertilize according to test recommendations. | 100% | 10 |
| 5) Do not apply all nitrogen at planting: sidedress or topdress part of the total N application | 75% | 10 |
| 6) Choose sites with good air drainage; not surrounded by woods | 25% | 3 |

| | | |
|---|---|---|
| 7) If manure is applied to field, apply only before planting and incorporate | 100% | 10 |
| 8) Try planting into killed mulch for weed control | 1% | 3 |
| **B. Planting** | | |
| 1) Resistant varieties: Choose disease resistant varieties and varieties less-preferred by beetle pests when available and feasible. | 50% | 10 |
| 2) Use fungicide treated seed. Use seeder box treatment for seedcorn maggot only if conditions dictate | 100% | 10 |
| 3) Turn under any cover crop residue 3 weeks before planting to avoid seedcorn maggot | 50% | 5 |
| **c. Pest Management** | | |
| 1) Calibrate sprayer at least once per season or every time nozzles are changed | 100% | 10 |
| 2) Scout for insects and diseases as recommended in IPM procedures | 25%<br>50%<br>100% | 3<br>5<br>10 |
| 3) Follow thresholds for pests for which thresholds have been established | 25%<br>50%<br>100% | 3<br>5<br>10 |
| 4) Follow management guidelines in Cornell IPM recommendations for pests that do not have thresholds | 75% | 10 |
| 5) Select fungicides based on a resistance management stragegy | 50% | 10 |
| 7) Choose labeled pesticides with the lowest environmental impact | 10% | 3 |
| 8) Keep records of pest populations, pesticide applications, and cultural practices | 100% | 10 |
| **D. Post Harvest** | | |
| 1) Make late season weed map/list for use the following season. See the Weed Assessment List available for use in satisfying this element. | 50% | 5 |
| 2) Disk down crop residue after harvest | 10% | 3 |
| 3) Establish a cover crop to scavenge nutrients and control weeds, or use spot applications of translocatable herbicide for control of perennial weeds | 10% | 3 |

Total points available: 158

Points needed to qualify (80%): 126

TO LEARN MORE...

Specific information on how to apply and use these IPM elements can be found in the following publications:

2000 Cucurbit IPM Scouting Procedures, IPM Bulletin 113

Integrated Crop and Pest Management Guidelines for Commercial Vegetable Production.

A Method to Measure the Environmental Impact of Pesticides. 1992. New York Food and Life Sciences Bulletin Number 139.

The above reference material can be obtained from county Cornell Cooperative Extension offices.